

---

---

ढ़लाइयों में उपयोग के लिए फ़्लूटेड कोर  
क्लीनर्स — विशिष्टि  
( पहला पुनरीक्षण )

Fluted Core Cleaners for Use in  
Foundries — Specification  
( First Revision )

ICS 77.180

© BIS 2023



भारतीय मानक ब्यूरो  
BUREAU OF INDIAN STANDARDS  
मानक भवन, 9 बहादुर शाह ज़फ़र मार्ग, नई दिल्ली - 110002  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI - 110002  
[www.bis.gov.in](http://www.bis.gov.in) [www.standardsbis.in](http://www.standardsbis.in)

## FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Foundry and Steel Castings Sectional Committee had been approved by the Metallurgical Engineering Division Council.

This standard was first published in 1970. This revision has been brought out to bring the standard in the latest style and format of the Indian Standards.

In addition, the following changes have been made:

- a) Reference clause has been included;
- b) In **4.1**, fluting material is substituted with C80U of IS 3748 for 80T3 of IS 3748;
- c) In **4.2**, handle material is substituted with E 350 of IS 2062 for St 32-O of IS 1977;
- d) In **6**, hardness testing standard IS 1586/ISO 6508-1 is included;
- e) In **7**, tolerance class 6H and 6G of IS 14962 (Part 3) : 2022/ISO 965-3 : 2021 is referred; and
- f) Marking clause has been modified.

The composition of the Committee responsible for the formulation of this standard is given in Annex B.

For the purpose of deciding whether particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.



<i>Sl No.</i>	<i>Total Length, L</i>	<i>Fluting Length, I</i>
	(mm)	(mm)
(1)	(2)	(3)
i)	650	400
ii)	750	500
iii)	880	630

### 3.2 Designation

Fluted roller with overall length of 650 mm and fluting length of 400 mm shall be designated as: Fluted roller — 650 (IS 5841).

## 4 MATERIAL

### 4.1 Fluting

The material shall be in accordance with tool steel C80U of IS 3748.

### 4.2 Handle

Handle shall be made of material with grade designation E 350 of IS 2062.

## 5 COATING ON HANDLE

Handle shall be electroplated in accordance with IS 1337.

## 6 HARDNESS OF FLUTING

The hardness of fluting, when tested in accordance to IS 1586/ISO 6508-1 shall be HRC 50 to HRC 55.

## 7 TOLERANCES

### 7.1 Threads

- Fluting* — Tolerance class 6H, IS 14962 (Part 3)/ISO 965-3.
- Handle* — Tolerance class 6G, IS 14962 (Part 3)/ISO 965-3.

**7.2** Tolerance on flatness of fluting along the length and flatness of roller along the width shall be  $\pm 0.05$  mm.

### 7.3 Other Tolerances

Standard tolerance grade as **IT14** of IS 919

(Part 1)/ISO 2861 and IS 919 (Part 2)/ISO 2862.

## 8 GENERAL

Surfaces of fluting shall be free from cracks, burrs, sharp edges, scales, etc after heat treatment.

## 9 SUPPLY

General requirements relating to supply of the materials to this specification shall be as laid down in IS 1387.

## 10 PACKING

The unprotected surfaces shall be coated with a thin film of protective oil. The fluting shall be wrapped in moisture proof paper. The tools shall be packed in wooden boxes weighing not more than 50 kg overall.

## 11 MARKING

**11.1** The material shall be marked with the following:

- Trade-mark or name of the manufacturer;
- Grade designation;
- Quantity; and
- Date of manufacture.

### 11.2 BIS Certification Marking

The products(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provision of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the product may be marked with the Standard Mark.

## ANNEX A

(Clause 2)

## LIST OF REFERRED STANDARD

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
IS 919	Geometrical product specifications (GPS) — ISO code system for tolerances on linear sizes:		metallurgical materials ( <i>second revision</i> )
(Part 1) : 2014/ ISO 286-1 : 2010	Basis of tolerance, deviation and fits ( <i>third revision</i> )	IS 1586 (Part 1) : 2018/ISO 6508- 1 : 2016	Metallic materials — Rockwell hardness test: Part 1 Test method ( <i>fifth revision</i> )
(Part 2) : 2010/ ISO 286-2 : 2010	Tables of standard tolerance classes and limit deviation for holes and shafts ( <i>second revision</i> )	IS 2062 : 2011	Hot rolled medium and high tensile structural steel — Specification ( <i>seventh revision</i> )
IS 1337 : 1993	Electroplated coatings of hard chromium for engineering purposes — Specification ( <i>third revision</i> )	IS 3748 : 2022/ ISO 4957 : 2018	Tool steels — Specification ( <i>third revision</i> )
IS 1387 : 1993	General requirements for the supply of	IS 14962 (Part 3) : 2022/ISO 965-3 : 2021	ISO general purpose metric screw threads — Tolerances: Part 3 Limit deviations for screw threads ( <i>first revision</i> )

**ANNEX B***(Foreword)***COMMITTEE COMPOSITION**

Foundry and Steel Castings Sectional Committee, MTD 14

<i>Organization</i>	<i>Representative(s)</i>
BHEL (CFFP), Haridwar	SHRI V. K. RAIZADA ( <b><i>Chairperson</i></b> )
Bharat Heavy Electricals Ltd, HPEP, Hyderabad	SHRI ABHINAV AGRAWAL
BHEL, Haridwar	SHRI A. N. SUDHAKAR SHRI RANJITH LAKRA ( <i>Alternate</i> )
Bhilai Engineering Corporation Limited, Bhilai	SHRI AKHIL DUBEY SHRI SHIV DUTT MISHRA ( <i>Alternate</i> )
CSIR - Central Mechanical Engineering Research Institute, Durgapur	DR SUDIP SAMANTHA
CSIR - National Institute for Interdisciplinary Science and Technology (NIIST), Thiruvananthapuram	DR TPD RAJAN DR M. RAVI ( <i>Alternate</i> )
Directorate General of Quality Assurance, Ichhapur	SHRI ASHOK KUMAR SHRI S. ROY CHOWDHURY ( <i>Alternate</i> )
Disa India Ltd, Bangalore	SHRI SUNIL KUMAR GHOSH SHRI SURESH KUMAR A. ( <i>Alternate</i> )
Forace Polymers Private Limited, Haridwar	SHRI D. K. GHOSH
Hindustan Aeronautics, Foundry and Forge Division, Bengaluru	SHRI K. SATYENDRA KUMAR
Indian Institute of Technology, Kharagpur	PROF SHIV BRAT SINGH PROF RAHUL MITRA ( <i>Alternate</i> )
Indian Ordnance Factory Board, Kolkata	SHRI G. JHA SHRI A. K. LALA ( <i>Alternate</i> )
Indian Ordnance Factory, Grey Iron Foundry, Jabalpur	SHRI M. P. YADAV SHRI ARUNANSHU PRAMANIK ( <i>Alternate</i> )
Indian Register of Shipping, New Delhi	DR K. K. DHAWAN SHRI S. VELMURUGAN ( <i>Alternate</i> )
Institute of Technology (BHU), Varanasi	DR INDRAJIT CHAKRABARTY DR JAYANT KUMAR SINGH ( <i>Alternate</i> )
Leader Valves Ltd, Jalandhar	SHRIMATI PURNIMA BERI SHRI SARABJIT SINGH ( <i>Alternate</i> )
Ministry of Defence (DGQA), Ichapur	SHRI ASHOK KUMAR SHRI RUPESH BANAIT ( <i>Alternate</i> )
Ministry of Railway, RDSO, Lucknow	SHRI C. SENGUPTA SHRI RAJ KISHORE PRASAD ( <i>Alternate</i> )
Ministry of Science & Technology, New Delhi	MS TAMANNA ARORA SHRI K. S. P. RAO ( <i>Alternate</i> )

<i>Organization</i>	<i>Representative(s)</i>
National Institute of Foundry & Forging Technology, Ranchi	DR KAMLESH KUMAR SINGH DR AMITESH KUMAR ( <i>Alternate</i> )
National Metallurgical Laboratory, Jamshedpur	DR D. N. PASWAN MS MINAL SHAH ( <i>Alternate</i> )
NIT Manipur, Langol, Imphal	PROF (DR) GOUTAM SUTRADHAR DR ANIL KUMAR BIRRU ( <i>Alternate I</i> ) DR SABINDRA KACHHAP ( <i>Alternate II</i> )
Steel Cast Ltd, Bhavnagar	SHRI V. K. MODI SHRI B. C. ROUTRAY ( <i>Alternate</i> )
Tata Motors, Jamshedpur	SHRI S. KUMAR DR D. S. PADAN ( <i>Alternate</i> )
The Institute of Indian Foundry Men, New Delhi	SHRI DINESH GUPTA SHRI SANJEEV KUMAR ( <i>Alternate</i> )
The Wesman Engineering Co Pvt Ltd, Kolkata	SHRI RANJAN GUHA SHRI ASHUTOSH MONDAL ( <i>Alternate I</i> ) SHRI PARTHA CHATTERJEE ( <i>Alternate II</i> )
Versatile Equipments Pvt Ltd, Kolhapur	SHRI PUSHKRAJ JANWADKAR SHRI KIRAN PANDI ( <i>Alternate</i> )
BIS Directorate General	SHRI SANJIV MAINI, SCIENTIST 'F'/SENIOR DIRECTOR AND HEAD (METALLURGICAL ENGINEERING) [REPRESENTING DIRECTOR GENERAL ( <i>Ex-officio</i> )]

*Member Secretary*  
SHRI KUNAL KUMAR  
SCIENTIST 'D'/JOINT DIRECTOR  
(METALLURGICAL ENGINEERING), BIS







## Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 2016* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

### Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Head (Publication & Sales), BIS.

### Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the website- [www.bis.gov.in](http://www.bis.gov.in) or [www.standardsbis.in](http://www.standardsbis.in)

This Indian Standard has been developed from Doc No.: MTD 14 (20988).

### Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

## BUREAU OF INDIAN STANDARDS

### Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002  
Telephones: 2323 0131, 2323 3375, 2323 9402

Website: [www.bis.gov.in](http://www.bis.gov.in)

### Regional Offices:

	Telephones
Central : 601/A, Konnectus Tower -1, 6 <sup>th</sup> Floor, DMRC Building, Bhavbhuti Marg, New Delhi 110002	{ 2323 7617
Eastern : 8 <sup>th</sup> Floor, Plot No 7/7 & 7/8, CP Block, Sector V, Salt Lake, Kolkata, West Bengal 700091	{ 2367 0012 2320 9474
Northern : Plot No. 4-A, Sector 27-B, Madhya Marg, Chandigarh 160019	{ 265 9930
Southern : C.I.T. Campus, IV Cross Road, Taramani, Chennai 600113	{ 2254 1442 2254 1216
Western : Plot No. E-9, Road No.-8, MIDC, Andheri (East), Mumbai 400093	{ 2821 8093

**Branches :** AHMEDABAD. BENGALURU. BHOPAL. BHUBANESHWAR. CHANDIGARH. CHENNAI. COIMBATORE. DEHRADUN. DELHI. FARIDABAD. GHAZIABAD. GUWAHATI. HIMACHAL PRADESH. HUBLI. HYDERABAD. JAIPUR. JAMMU & KASHMIR. JAMSHEDPUR. KOCHI. KOLKATA. LUCKNOW. MADURAI. MUMBAI. NAGPUR. NOIDA. PANIPAT. PATNA. PUNE. RAIPUR. RAJKOT. SURAT. VISAKHAPATNAM.